

#### ABSTRACT OF THE DISCLOSURE

Prepregs, laminates, printed wiring board structures and processes for constructing materials and printed wiring boards that enable the construction of printed wiring boards with improved thermal properties. In one embodiment, the prepregs include substrates impregnated with 5 electrically and thermally conductive resins. In other embodiments, the prepregs have substrate materials that include carbon. In other embodiments, the prepregs include substrates impregnated with thermally conductive resins. In other embodiments, the printed wiring board structures include electrically and thermally conductive laminates that can act as ground and/or power planes.